

L 58517-65 EWA(h)/EWT(l)/T Pz=6/Peb IJP(c)
 ACCESSION NR: AP5016275

UR/086/65/001/005/0001/0005

*21
20*

AUTHOR: Sirota, D.; Uritskiy, Z.; Shuster, G.

21 B

TITLE: Contribution to the theory of diamagnetism of semiconductors in a quantizing magnetic field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniya, v. 1, no. 5, 1965, 1-5

TOPIC TAGS: diamagnetic susceptibility, semiconductor diamagnetism, carrier scattering, optical phonon, quantizing magnetic field

ABSTRACT: The purpose of the investigation was to ascertain whether the diamagnetic susceptibility of the carriers in a quantizing magnetic field exhibits singularities similar to the singularities observed in the scattering of the carriers by optical phonons. The authors start with the Hamiltonian

$$H = \sum_p \epsilon_p a_p^+ a_p + \sum_q \omega_q (c_q^+ c_q + 1/2) + \sum_{pp'q} G_q (i \frac{a_{p'}^+ a_p}{pp'q} + \text{Herm. conj.})$$

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and obtain by means of a procedure described elsewhere (ZhETF v. 49, the following carrier spectrum in the second order of the interaction:

1965)

$$E = \epsilon_{p'} - \sum \int d^3q \left[\frac{R^2 |L_n^{n'-n}(q_1^2)|^2 N_0}{(\epsilon_{n'p_z'+q_z} - \epsilon_{np_z} - \omega)} + \frac{R^2 |L_n^{n'-n}(q_1^2)|^2 (1 + N_0)}{(\epsilon_{n'p_z'-q_z} - \epsilon_{np_z} + \omega)} \right]$$

The final expression for the diamagnetic susceptibility is:

$$\begin{aligned} \mu = \frac{N}{\beta H} \frac{\partial \ln z}{\partial H} &= N_0 + \frac{R^2 e(2\pi)^{1/2} N}{\hbar^2 He^3/2 z_0} \sum_{nm} K_{nm} e^{-\beta\Omega(n+1/2)} \{ (1 + N_0)[\Omega(n' - n) + \omega]^{1/2} \\ &+ N_0[\Omega(n' - n) - \omega]^{-1/2} - \frac{\beta\Omega(n+1/2)}{H} [(1 + N_0)(\Omega(n' - n) + \omega)]^{-1/2} \\ &+ N_0(\Omega(n' - n) - \omega)^{-1/2} \} - \frac{\Omega(n' - n)}{H} [(1 + N_0)(\Omega(n' - n) + \omega)]^{-3/2} \\ &+ N_0(\Omega(n' - n) - \omega)^{-3/2} \} \end{aligned}$$

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It is obvious that the resonant absorption of the optical phonons leads to peaks also when ω is an integer multiple of Ω . However, owing to the exponential decrease of N_0 , for each succeeding peak with increasing $\beta\omega$, the most essential contribution will be made by the resonant absorption of the phonon at the peak $\omega = \Omega$. In the terms corresponding to resonant emission, the singularities will be observed at $n > n'$. An essential nonmonotonicity of the diamagnetic susceptibility is expected only when $\omega = \Omega$. A complete calculation, with account of attenuation in the carrier spectrum, entails no difficulty of principal nature but is technically very cumbersome. The calculation presented determines correctly the position of the resonant peaks. Orig. art. has: 8 formulas.

ASSOCIATION: Ural'skiy gosudarstvenny universitet im. A. M. Gor'kogo (Ural State University)

SUBMITTED: 14Apr65

ENCL: 00

SUB CODE: SS, OP

NR REF Sov: C03

OTHER: 001

Card 3/3
b7c

SIROTA, D.; URITSKIY, Z.; SHUSTER, G.

Theory of the diamagnetism of semiconductors in a quantized magnetic field. Pis'. v red. Zhur. eksper. i teor. fiz. 1 no.5:1-5 Je '65. (MIRA 18:11)

1. Ural'skiy gosudarstvennyy universitet imeni Gor'kogo.
Submitted April 14, 1965.

ZAKHARENKO, I.P., kand.tekhn.nauk; SIROTA, D.A.; CHEPOVETSKIY, I.Kh.

Introducing a hard-alloy instrument for processing parquets
from the wood of tropical species. Bum. i der. prom. no.4:
43-46 O-D '63. (MIRA 17:3)

ZAKHARENKO, I.P., kand.techn.nauk; CHEREPOVETS'KIY, I.Kh., inzh.; SIROTA, D.A.,
inzh.

Knives with glued-in hard-alloy blades. Der. prom. 12 no.6:23-24
Je '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut sinteticheskikh
sverkhtverdykh materialov i instrumenta.

ZAKHARENKO, I.P., kand.tekhn.nauk; SIROTA, D.A.

Machine for diamond sharpening of hard-alloy wood-cutting
instruments. Bum. i der. prom. no.1:56 Ja-Mr '64. (MIRA 17:6)

L 24629-66 T/E/AMU IJF(c) AT
ACC NR: AP6002050

SOURCE CODE: GE/0030/65/012/002/K105/K108

AUTHOR: Uritsky, S. I. Sirota, D. I.

ORG: Ural State University, Sverdlovsk

TITLE: Effect of spin-magnetophonon interaction in the magnetic susceptibility
in semiconductors

SOURCE: Physica status solidi, v. 12, no. 2, 1965, K105-K108

TOPIC TAGS: magnetophonon, ~~optical~~ magnetic field, magnetic susceptibility, carrier scattering, ~~semiconductor~~, ~~optical~~ phonon, spin inversion, resonance scattering, ~~semiconducting~~ material

ABSTRACT: It was shown in previous studies (D. I. Sirota, S. I. Uritsky, and G. V. Shuster, Zh. eksper. teor. Fiz., Pisma Red. 1, No. 5 (1965); S. I. Uritsky and G. V. Shuster, Zh. eksper. teor. Fiz. 49, 182 (1965)) that resonance scattering of current carriers in semiconductors by optical phonons in quantum magnetic fields leads to singularities in the energy spectrum of the carrier which are reflected by resonance oscillations of the thermodynamic functions and of the magnetic susceptibility. It was also found (S. T. Pavlov and Yu. A. Firsov, Fiz. tverd. Tela 7, 2634 (1965); I. M. Tsidilkovski, M. I. Akselrod, and S. I. Uritsky, phys. stat. sol., in press) that carrier scattering by optical phonons with spin inversion is of a resonance nature. In the present paper the authors consider the effect of this mechanism on the magnetic susceptibility of current carrier. A mathematical defi-

Cerd 1/2

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ACC NR: AP6002050

nition of the effect of carrier-phonon interaction on the thermodynamic potential is proposed and the calculation of the matrix elements of the operator and the operators of the current carrier and phonon fields is given. The authors confirm that the magnetic susceptibility has a resonance peak whose position can be used to determine the value of the g-factor. Orig. art. has: 9 formulas. [LD]

SUB CODE: 20/ SUBM DATE: 02Nov65/ ORIG REF: 004/ OTH REF: 002/

Card 2/2 *ULB*

SIROTA, D.S.

Once more on the problem of medical collective farm commissions.
Vrach.delo no.8:127-129 Ag '62. (MIRA 15:11)

1. Varvarovskaya uchastkovaya bol'nitsa Karlovskogo rayona
Poltavskoy oblasti.
(KARLOVKA DISTRICT--DISABILITY EVALUATION)

C 4

Welding properties of steel EYaZS. S. K. Zvegintsev
and E. A. Srota (The Kirov plant of Leningrad). *Avtogennoe Delo* 1966, No. 8/9, 27-30.—This steel is a high-temp. austenitic Cr-Ni steel having the compn. C 0.3-0.4, Si 2.3-2.9, Mn 0.4-0.7, S not more than 0.02, P not more than 0.03, Cr 10.0-23.0, Ni 23.0-27.0%, and the rest Fe. The steel is used in a cast, forged, or rolled state. The arc-weldability of this steel was studied with steel electrodes 25 SKhNA and EYaO. The former contained C 0.25, Cr 21.5, and Ni 13.75%; and the latter C up to 0.07, Cr 18, and Ni 9%. The weldability was determined on cast and forged specimens at 20-70°. Cast specimens welded satisfactorily only when preheated to 300° and cooled slowly. Otherwise cracks were formed along the weld. The welding of forged specimens depended on the thickness of the welded metal and on the hardness of the joint. Single-layer welds were obtained under ordinary conditions. For multi-layer welds preliminary heating and slow cooling were required. The electrodes with less C (EYaO) were preferable. M. Hosc
C (EYaO)

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ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

SIROTA, E. A.

USER/Metals - Welding

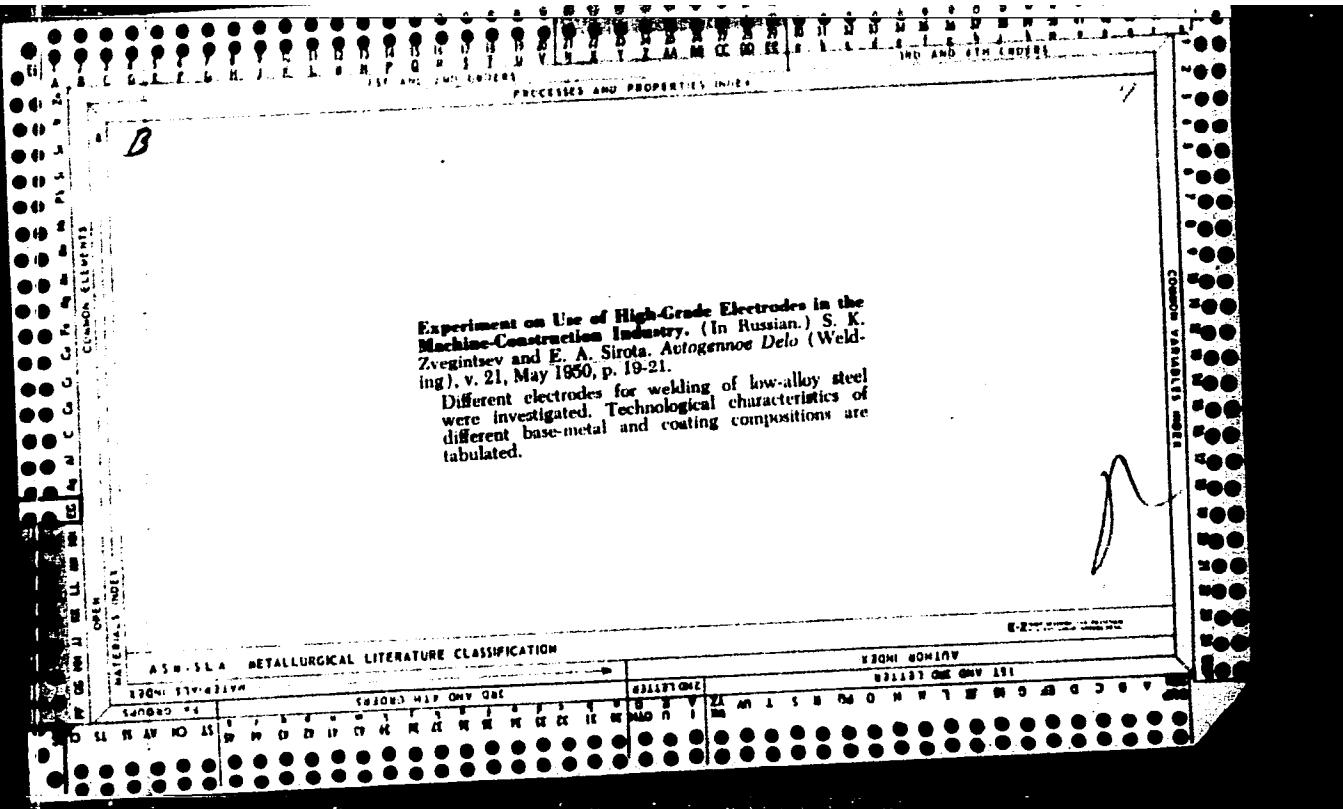
Aug 50

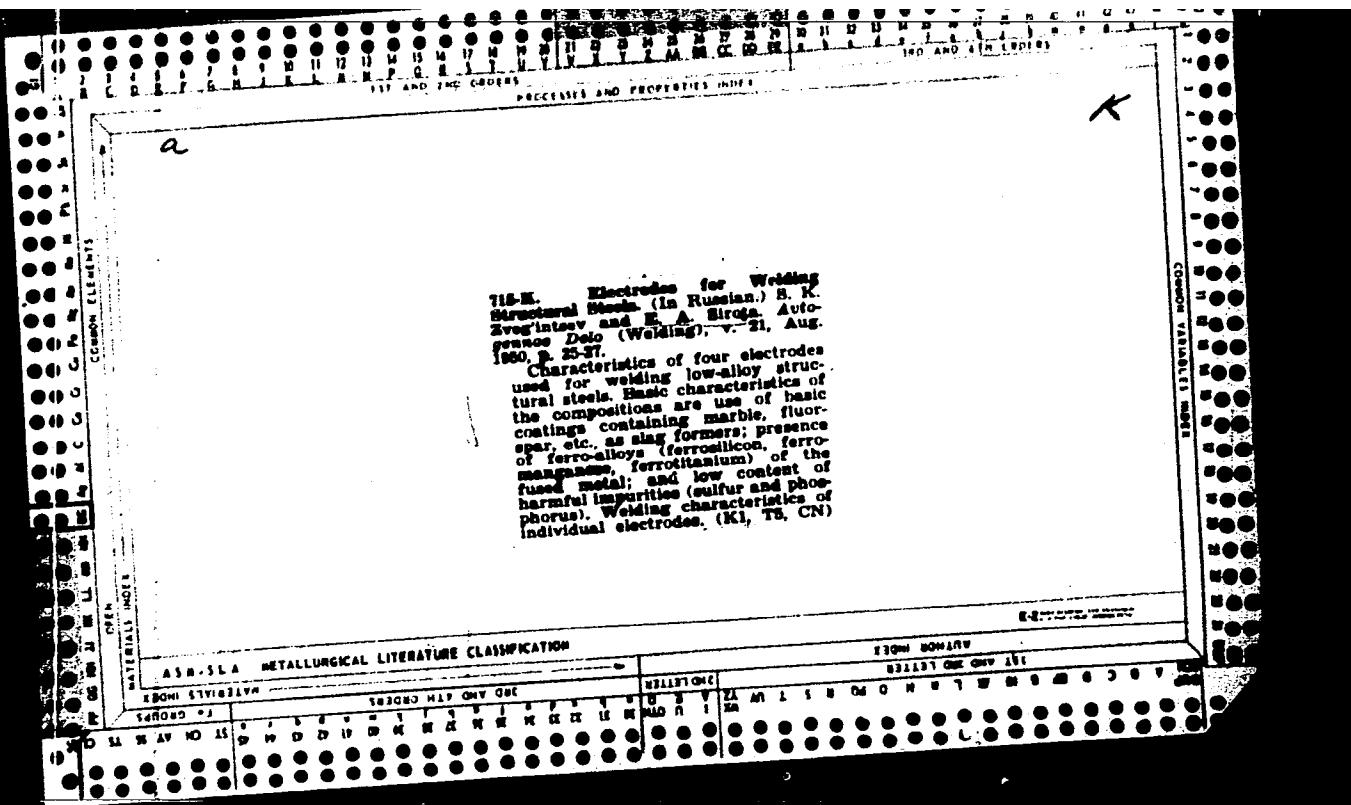
"Electrodes for Welding Structural Steels," Engineers S. K. Zvegintesv, E. A. Sirota

"Avtogen Delo" No 8, pp 25-27

Describes electrodes used in welding structural low-alloy steels, giving chemical composition and mechanical properties of welded joints made with these electrodes. Main feature of electrodes is application of basic type coatings, utilizing marble and fluorspar as slag-forming agent. These coatings differ mainly in ferro-alloy content. Introduction of ferroalloys results in good deoxidation of welded metal. This coating allows reduction of impurities (sulfur, phosphorus).

PA 167T73





STROTA, G. I., Cand Med Sci (diss) -- "The use of electrophoresis of penicillin in treating chronic apical periodontitis". Khar'kov, 1960. 11 pp (Min Health Ukr SSR, Khar'kov State Med Inst), 200 copies (KL, No 14, 1960, 138)

SIKOTA, G.I.

Use of electrophoresis of drugs in treating subacute apical periodontitis. Probl. stom. 5:194-197 '60. (MIRA 15:2)

1. Khar'kovskiy meditsinskiy stomatologicheskiy institut.
(ELECTROPHORESIS) (TEETH DISEASES)

LYUBOMUDROV, V. Ye., kand. med. nauk; AGARKOVA, S. V.; D'YAKONENKO, Ye. K.;
MATEYEVA, K. M.; PAVLOVA, O. A.; SIROTA, G. M.; EYDIS, L. Z.

Combined forms of pneumoconioses in patients with collagenoses.
Terap. arkh. no.9:95-101 '61. (MIRA 15:2)

1. Iz Stalinskogo nauchno-issledovatel'skogo instituta fiziologii
truda.

(LUNGS--DUST DISEASES) (COLLAGEN DISEASES)

SIROTA, G.M.

Rapidly developing anthracosis under conditions of dust-filled
mine air. Vrach. delo no. 2:120-123 F'64 (MIRA 17:4)

1. Oblastnaya klinika professional'nykh zabolеваний Donetskogo
nauchno-issledovatel'skogo instituta fiziologii truda.

SIROTA, G.P.; CHISTIKOV, D.D.

Pasteurellosis in rooks. Veterinariia 40 no.5:42 My '63. (MIRA 17:1)

1. Khersonskaya oblastnaya veterinarno-bakteriologicheskaya laboratoriya.

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3

SIROTA, I. M.

"Improvement in the Operation of Alkaline Batteries," Vest. Svyazi - Elektrosvyaz,
No. 3, 1948. Engr.

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3"

SIROTA, I. ...

37314: Chuvstvitel'naya zashchita generatorov ot zamykaniya na zemlyu.
(Iz kand. dissertatsii) Sbornik nauch-tekhn statey. (Akad. Nauk Ukr.
SSR, in-t elektrotekhniki). Vyp. 3, 1949, s. 138-61, Bibliogr: 5 Nazv

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3

SIROTA, I. M.

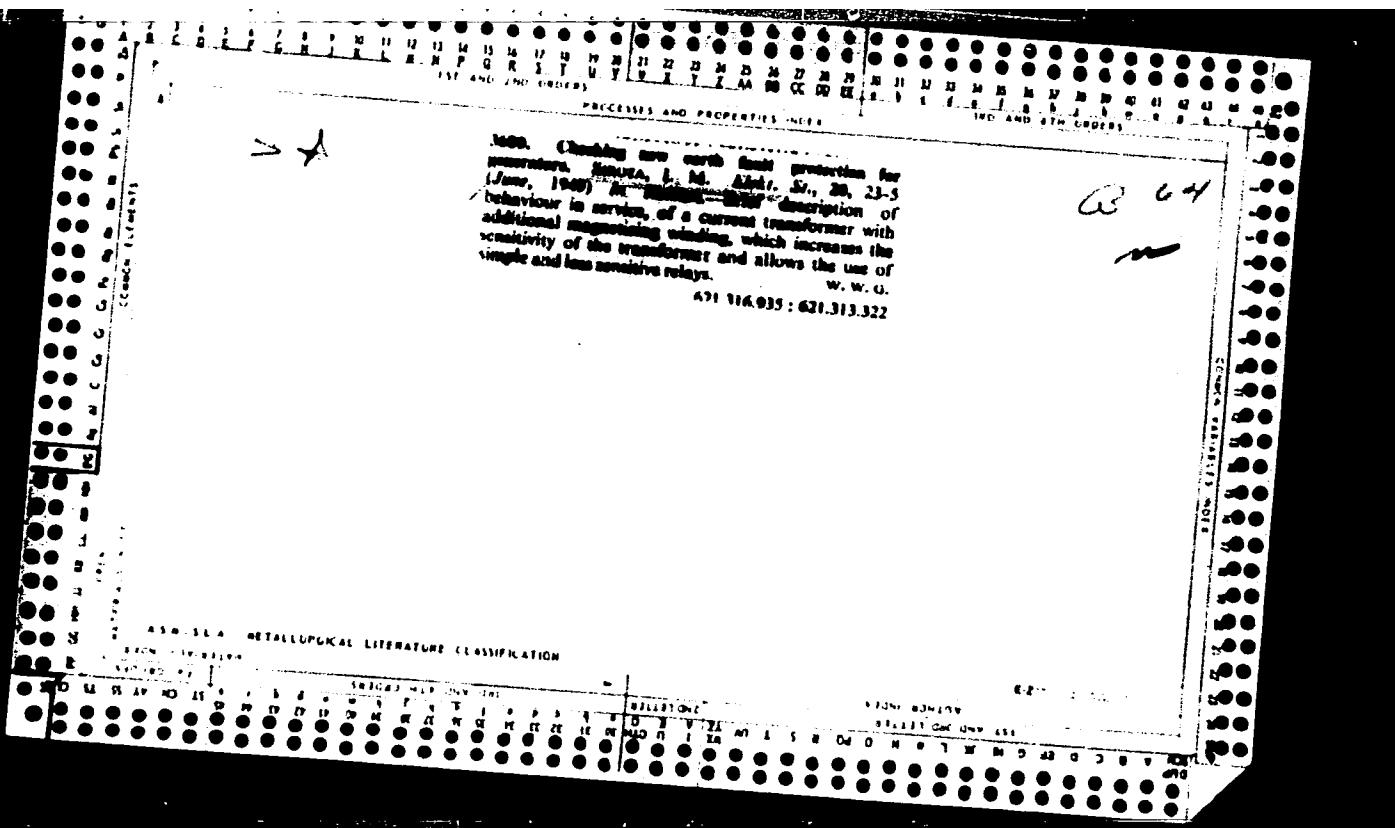
"Checking New Ground Protection for a Generator," Elek. Stan., No. 6, 1949.
Cand. Tech. Sci.

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3"

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3



APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3"

SIROTA, I. M.

"Unbalanced Currents of Transformers of the Current of Zero Sequence," Electricity,
Publ. by the Printing House of the Govt. Energy (Electrical) Publ. House, in
Moscow, 1952.

SIROTA, I. M.

PA 237T16

USER/Electricity - Current Transformers
Grounding Protection

Jun 52

"Unbalance Currents in Zero-Sequence Current Transformers," Cand Tech Sci I. M. Sirota, Inst of Eng Acad Sci Ukr SSR

"Elektrichesvo" No 6, pp 46-52

"Investigation of conditions for origin and basic properties of unbalance currents in zero-sequence current transformers (used for grounding protection) resulting from a symmetrical distribution of primary currents or unequal loading of strands of parallel cables. Points out basic methods for limiting these currents, which should be adopted

237T16

in manufacture of these transformers with magnetic conductors of elongated rectangular form.
Submitted 8 Aug 51.

237T16

SIRDTA, I. M.

Electric currents-Grounding, Short Circuits

Preventing short-circuiting to the ground with
cable current transformers. Elek. sta- 23 no.
3:30-32 Mr '52.

Kand. Tekhn. Nauk

SO: Monthly List of Russian Accessions, Library of Congress, July 1952 ~~x1953~~, Unclassified.

BALCHUSOV, M. M. Eng., BASKAKOV, G. N., Eng., SIRDTA, I. M. Eng., ROZOVSKII, YU. A. Eng.

Electric Lines

Problem of four-wire and six-wire electric transmission lines. Elektrichestvo No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

Electrical Engineering
Abst.
Section B
March 1954
Transformers.

621.314.224
468. Premagnetization of zero-sequence current
transformers. I. M. SIROTA. Elektrichesvo, 1953,
No. 5, 23-7. In Russian.

It is shown that a.c. premagnetization of the cores
of current transformers is an effective means for
obtaining a simple and highly sensitive current-
operated protection of generators against short-
circuits to earth, and is also suitable for the protec-
tion of other large units in power systems. In
particular it enables permalloy or other expensive
alloys for the transformer cores to be dispensed with.
The experience now available on the use of pre-
magnetized transformers shows that the negligible
complication in the design of the transformers is
hardly felt in the production of current transformers.
In the majority of cases, premagnetized current
transformers can be designed by a semi-empirical
method, assuming the sinusoidal character of all
currents, magnetic fluxes, etc., of the transformer.

B. F. KRAUS

Inst. Elec. Engineering, AS USSR

Siroth, J. A.

621.317.333.4.083.7 ; 621.316.1
2753. Selective earth fault signalling equipment in
electric power systems. A. V. OSTROVSKAYA AND
L.M. Spera. Elekt. Stantsii, 1954, No. 12, 28-31.
In Russian.

A simple zero-sequence current transformer is described for mounting around 3-core cables with laminations of one yoke stacked at site. Circuit diagrams, photographs and main data are given of 3 standard sets of equipment for indicating 1-ph. earth faults in substation feeders of power systems with insulated neutral. Discrimination between faulty and healthy line is obtained from the direction of the output current of a mechanical rectifier with vibrating contacts energized by the zero-sequence voltage and rectifying the zero-sequence current or vice versa. Polarized relays can be used instead of standard mechanical rectifiers. Either individual rectifying and indicating equipment is installed for each feeder or one central set is applied to the current

F. DUSEMANN

Sirota I.M.

OSTROVSKAYA, A.V., inzhener; SIROTA, I.M., kandidat tekhnicheskikh nauk.

Apparatus for the selective signalization of short circuits to ground
in electric networks. Elek.sta. 25 no.12:28-31 D '54. (MLRA 7:12)
(Electric networks) (Short circuits)

SIROTA, Igor' Moiseyevich; TSUKERNIK, L.V., kandidat tekhnicheskikh nauk .
redaktor; ZIL'BAN, M.S., redaktor; RAKHLINA, N.P., tekhnicheskiy
redaktor

[Protection against grounding in electric power systems] Za-
shchita ot zamykanii na zemliu v elektricheskikh sistemakh.
Kiev, Izd-vo Akademii nauk USSR, 1955. 207 p. (MIRA 9:3)
(Electric currents--Grounding) (Electric power distribution--
High tension)

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3

12: PRINTER TYPE AND NUMBER
Model No.
Date 9/2/68
Serial No.
Description of printer:
This is a dot matrix printer with a resolution of 240 dots per inch.
It has a paper capacity of 100 sheets and can print up to 10 pages per minute.
It features a built-in ribbon cartridge and automatic paper loading.
It is connected to a computer via a parallel port and uses standard printer paper.

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3"

Sirota, I.M.

112-2-3235

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 2, p. 103 (USSR)

AUTHOR: Sirota, I.M.

TITLE: Nonlinear Limiters in Current and Voltage Circuits of Protective and Automatic Control Systems (Nelineynyye ogranichiteli v tsepyakh napryazheniya i toka ustroystv zashchity i avtomatiki)

PERIODICAL: Sb. tr. in-ta elektrotekhn. AN UkrSSR, 1956, Nr 13, pp. 98-121

ABSTRACT: A method of calculation is explained and experimental data are given on limiters representing a combination of linear and nonlinear resistors. The apparatus can be used in relay protection and automatic control systems when it is necessary to substantially limit the frequency of current and voltage change at the output when current and voltage vary in a wide range at the system input. The theoretical conclusions are illustrated by examples of calculations. V.G.D.

Card 1/1

SIROTA, I.M.

Selecting the capacity of a transformer with an attached
grounding coil. Sbor.trud. Inst.elektrotekh.AN URSSR no.13:
134-145 '56. (MLRA 9:10)

(Electric transformers)

SIROTA, I.M.

Electrical circuits designed at the Institute of Electrical
Engineering of the Academy of Sciences of the Ukrainian S.S.R.
Avtomatyka no.1:99-101 '57. (MLRA 10:5)
(Electric circuits)

SOV/110-58-9-3/20

AUTHOR: Sirota, I.M. (Candidate of Technical Science)
TITLE: A Relay based on the Hall Effect (Rele na osnove
effekta Kholla)
PERIODICAL: Vestnik Elektropronyshlernosti, 1958, Nr 9, pp 9-14 (USSR)
ABSTRACT: When the Hall effect is used in protective or automatic
apparatus, the elements are connected into a power-
frequency alternating-current and -voltage circuit, and a
device that responds to the direct component of the output
current is applied to the Hall electrodes. The main
problem is to obtain, in the device, the highest possible
d.c. power for the fairly constant Hall-e.m.f. component.
The article then determines the power derived from the
Hall circuit for three cases: when the resistance of the
Hall lamina is practically independent of magnetic
induction; when the influence of magnetic induction on
the resistance of the lamina is allowed for, but the load
is not inductive; and when the load is inductive.
Formulae are derived for the maximum Hall power in each of
these three cases. The most suitable materials for use in
applying the Hall effect to protective circuits are those
in which the mobility of the electrons is very great,
Card 1/3

SOV/110-58-9-3/20

A Relay based on the Hall Effect.

including InAs, InSb and in some cases germanium; this follows from comparison from the three formulae derived above. The relative resistivity against induction for InAs and InSb are plotted in Fig 1. Output-voltage and -power data for the three materials are presented in Table 2. Evidently the greatest power can be obtained from InAs elements, but those of InSb are somewhat easier to manufacture. The output power of the Hall circuit is proportional to the ratio of the Hall coefficient to the specific resistance of the material at appropriate values of temperature and magnetic induction, also to the ratio of the power required to set up a magnetic field in the lamina and to heat it to the volume of the lamina. The

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A Relay based on the Hall Effect.

SOV/110-58-9-3/20

data and equations given in the article can form a basis for designing a relay based on the Hall effect. The Hall effect is particularly applicable to directional power relays.

There are 2 tables, 2 figures, and 4 references, 3 of which are Soviet.

SUBMITTED: October 7, 1957

- 1. Electric relays--Design
- 2. Electric relays--Applications
- 3. Mathematics--Applications

Card 3/3

SIROTA, I.M., kand. tekhn.nauk; TRUKHAN, A.P., inzh.

Earth fault signaling arrangement with high-voltage capacitive
tapping. Elek.sta. 29 no.6:51-53 Je '58. (MIRA 11:9)
(Electric lines) (Electric apparatus and appliances)

SIR & TA, I. M.
8(6); 28(1)

PHASE I BOOK EXPLOITATION

SOV/2497

Akademiya nauk Ukrainskoy SSR. Institut elektrotekhniki.

Voprosy ustoychivosti i avtomatiki energeticheskikh sistem (Problems in Stability and Automation of Power Systems) Kiyev, Izd-vo AN UkrSSR, 1959. 186 p. (Series: Its: Sbornik trudov, vyp. 16) Errata slip inserted. 4,000 copies printed.

Ed. of Publishing House: T. K. Remennik; Tech. Ed.: N. P. Rakhlina;
Editorial Board: A. D. Nesterenko, Corresponding Member, Ukrainian SSR
Academy of Sciences (Resp. ed.), S. A. Lebedev, Academician, S. I.
Tetel'baum, Corresponding Member, Ukrainian SSR Academy of Sciences, A. N.
Milyakh, Doctor of Technical Sciences, Ye. V. Khrushcheva, Candidate of
Technical Sciences, and L. V. Tsukernik.

PURPOSE: This collection of articles was published in line with a directive of the scientific council of the Electrical Engineering Institute, Academy of Sciences, UkrSSR. It is intended for scientific engineering and technical personnel concerned with problems of stability and automatic control of power systems.

Card 16

Problems in Stability and Automation (Cont.)

SOV/2497

The author obtains equations of disturbed motion of a complex power system, taking into account complex-load characteristics. He analyzes the matrix of equation coefficients and obtains operational expressions showing the effect of all branches of a power system on each individual branch. He also derives a formula for determining the order of a characteristic equation of a system. There are 4 references, all Soviet.

Sirata, I.M. Transients in a Compensated Network During Short-circuiting to Ground.

55

The author analyzes equivalent circuits of a complex compensated network and shows that transients during short-circuiting to ground may be calculated with the aid of an approximate simple equivalent circuit containing L, c and R. He also discusses the effect of transient currents on the behavior of various types of relays and protection systems against short-circuiting to ground. He shows that the use of a polarized or permanent-magnet moving-coil relays operating on capacitance-current surges is possible only when relay speed is increased. There are 8 references: 7 Soviet and 1 English.

Card 3/6

Problems in Stability and Automation (Cont.)

SOV/2497

He discusses equivalent circuits of magnetic amplifiers and derives expressions for amplifier parameters. There are 7 references, all Soviet (including 1 translation).

Kostyuk, O.M. Current transformers with D-C Magnetization and Basic Aspects of Calculating Trans formers Used in Circuits for Automatic Field Regulation of Synchronous Generators

135

The author discusses a graphic-analytical d-c magnetization used in circuits for automatic field regulation of synchronous machines. There are 8 references: 6 Soviet, 1 English and 1 German.

CIRCUITS, DEVICES AND EXAMPLES OF CALCULATIONS

153

Kachanova, N.A. and L.V., Tsukernik. Analysis of Static Stability of a Long-distance Transmission Line, Taking Into Account Complex Load

153

Characteristics

The authors study the effect of voltage and frequency static characteristics of a complex load as well as the effect of dynamic characteristics of an equivalent induction motor on the stability of a long-distance power transmission line. They conclude that the dependence of load

Card 5/6

8(3)

AUTHOR:

Sirota, I. M., Candidate of Technical Sciences

SOV/105-59-2-6/25

TITLE:

Calculating Transients in Current Transformers Using Partial Magnetization Curves (K raschetu perekhodnykh protsessov v transformatorakh toka po chastnym krivym namagnichivaniya)

PERIODICAL: Elektrичество, 1959, Nr 2, pp 21-26 (USSR)

ABSTRACT:

The possibility of basing the calculation of transients in current transformers using partial magnetization curves, with some modifications, on the mathematical interrelationship found by Madelung (Madelung) (Ref 4) in 1905 is shown. This relationship is formulated by 4 rules. The first three of them are accurate, whilst the fourth is rather an approximation and does not apply in some cases. For determining the possible deviations from these rules a series of singular partial cycles was taken of some current transformer cores by the ballistic method. Simultaneously the displacement of the partial loop with reference to the initial curve at multiple cycle repetition was checked. The tests showed that a set of partial curves in the form of symmetrical loops and return curves built up in different scales suffices for the practical calculations. The calculation of transients by the

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SOV/105-59-2-6/25

Calculating Transients in Current Transformers Using Partial Magnetization Curves

basic magnetization curve without regard to the partial cycles leads to considerable errors. The remanence of the core and the size and the characteristic of the load resistance of the secondary circuit are of great influence on the value of the current transformer magnetizing current. There are 5 figures, 1 table, and 10 references, 6 of which are Soviet.

SUBMITTED: June 24, 1958

Card 2/2

SIROTA, I.M., kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Out of balance currents in current transformers of zero
sequence. Izv.vys.ucheb.zav.; energ. 2 no.8:134-136
Ag '59. (MIRA 13:2)

1. Institut elektrotekhniki AN USSR.
(Electric transformers)

SIROTA, I.M.

Transients in a compensated network during ground fault of a phase.
Sbor. trud. Inst. Elektrotekh. AN URSR no.16:55-76 '59.

(MIRA 12:9)

(Electric networks) (Transients (Electricity))

SIROTA, I.M.

Method for calculating transients in current transformers.
Sbor. trud. Inst. elektrotekh. AN URSR no.16:87-112 '59.

(MIRA 12:9)
(Transients (Electricity)) (Electric transformers)

SIROTA, I.M., kand. tekhn. nauk

Protection of generators from double contacts of ground.
Elek. sta. 30 no.3:64-68 Mr '59. (MIRA 12:5)
(Electric generators)

SIROTA, I.M., kand.tekhn.nauk

Engineering method for calculating operational transients of
electric transformers. Izv. vys. ucheb. zav.; energ. 3 no. 7:6-
18 Jl '60. (MIRA 13:8)

1. Institut elektrotehniki AN USSR. Predstavlena seminarom
laboratori elektrostantsiy i energosistem.
(Electric transformers)

SIROTA, Igor' Moyseyevich; TSUKERNIK, L.V., kand. tekhn. nauk, otv.
red.; LABINOVA, N.M., red. izd-va; LISOVETS, A.M., tekhn.
red.

[Transient operating conditions in electric current
transformers] Perekhodnye rezhimy raboty transformatorov toka.
Kiev, Izd-vo Akad. nauk USSR, 1961. 191 p. (MIRA 15:3)
(Electric transformers)

SIROTA, I.M., kand.tekhn;nauk

Current transformers with air gaps in the steel core. Elektrichestvo
no.1:56-61 Ja '61. (MIRA 14:4)

1. Institut elekrotekhniki AN USSR.
(Electric transformers) (Cores (Electricity))

SIROTA, I.M., kand.tekhn.nauk

Protection from short-circuits to ground of large electric generators.
Energ. i elektrotekh. prom. no.1:17-20 '62. (MIRA 15:6)

1. Institut elektrotehniki AN USSR.
(Electric generators) (Electric protection)
(Electric power distribution)

SIROTA, I.M., kand.tekhn.nauk

Connections to zero sequence bus transformers. Elek. sta. 34 no.11:
60-64 N '63.
(MIRA 17:2)

SIROTA, I.M., kand. tekhn. nauk (Kiyev); NAUMOVSKIY, L.D., inzh.
(Leningrad); TSIREL', Ya.A., inzh. (Leningrad); KLEBANOV, Z.I.
(Bobruysk); KAMENSKIY, A.F. (Bobruysk); BOYCHUK, S.I. (Bobruysk);
IOZEFAVICHUS, D.I., inzh. (Kalininograd); SHULOV, B.S., inzh. (Riga)

Neutral operating mode in electric power distribution systems.
Elektrichestvo no.1:84-91 Ja '64. (MIRA 17:6)

SIROTA, I.M., doktor tekhn. nauk; Prinimali uchastiye: Ostrovskaya, A.V.;
Bogachenko, A.Ye.; Pitsyk, V.F.

Protection from short circuits to ground of the power distribution
networks in mines, peat enterprises, and the construction industry.
Energ. i elektrotechn. prom. no.2:46-49 Ap-Je '64. (MIRA 17:10)

SIEOTA, I.M.

Transient processes in systems for protecting generators from
short-circuits to ground. Trudy Inst. elekrotekh. AN URSR 20:
5-31 '63.

Contribution to the theory of zero-sequence current transformers.
Ibid.:31-43 (MIRA 17:11)

SIROTA, I.M., kand.tekhn.nauk

Protection from short-circuits to ground of noncompensated networks
with insulated neutral line. Prom.energ. 19 no.7:29-32 Jl '64.
(MIRA 18:1)

SIROTA, I.M., doktor tekhn. nauk

Automatic setting of leakage compensating and protection
devices in low-voltage power distribution networks. Energ.
i elektrotekh. prom. no.4:11-15 O-D '65.

(MIRA 19:1)

SIROTA, I.Z.

Free-moving foreign body in a cyst-like cavity of the lung.
Vest. rent. i rad. 39 no. 3:58-59 My-Je '64.

(MIRA 18:11)

1. Rentgenovskoye otdeleniye (zav. I.Z.Sirota) Stavropol'-
skoy krayevoy klinicheskoy bol'nitsy.

SIROTA, I.Z.

Experience in training physicians-roentgenologists in the
Stavropol Territory. Vestn. rent. i rad. 33 no.3:83-84
My-Je '63. (MIRA 17:7)

1. Iz rentgenovskogo otdeleniya (zav. I.Z. Sirota) Stavro-
pol'skoy kraysovoi klinicheskoy bol'niitsy.

KRUGLOV, Yu.V.; SIROTA, L.B.

Effect of root microflora on the uptake of phosphorus by plants. Trudy Inst. mikrobiol. no.11:246-251 '61 (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'sko-khozyaystvennoy mikrobiologii Vsesoyuznoy akademii sel'sko-khozyaystvennykh nauk imeni Lenina.

*

SIROTA, L.I.

DATSENKO, M.F., dotsent (Khar'kov); SIROTA, L.I., ordinатор (Khar'kov)

Complications following anesthesia administered by injection in
surgery of the oral cavity according to clinical data. Probl.
stom. 3:239-244 '56 (MLRA 10:5)
(ANESTHESIA IN DENTISTRY)

SIROTA, L.I. (Khar'kov)

Case of Echinococcus of the pterygomandibular space. Probl. stom.
3:335-336 '56 (MLRA 10:5)
(PHARYNX--HYDATIDS)

SIROTA, L.I., assistant (Khar'kov)

Application anesthesia in the removal of teeth in patients with
paradentosis. Probl. stom. 4:323-326 '58. (MIRA 13:6)
(ANESTHESIA IN DENTISTRY) (GUMS--DISEASES)

PUGACH, Ya.Yu., inzh.; SIROTA, L.M., inzh.

What's new in finishing operations. Biul.tekh.inform.po
stroi. 5 no.10:14-17 0 '59. (MIRA 13:3)
(Painting, Industrial--Equipment and supplies)

SIROTA, M. (Saratov); SMOL'KIN, G. (Saratov).

Use of metallic rollers for airports. Grazhd.av.13 no.12:24 D '56.
(Airports) (Rollers(Earthwork)) (MLRA 10:2)

SIROTA, M.A.

Measures taken toward reducing losses during the threshing of green
peas. Kons.i ov. prom. 15 no.6:16-18 Je '60. (MIRA 13:9)

1. Moldavskiy nauchno-issledovate'skiy institut pishchevoy-promyshlen-
nosti.
(Peas)

BUBRAKOV, B.P.; VASIL'YEV, A.S.; kand. biologicheskikh nauk; NORDKOVICH, M.S.; SIROTA, M.A.

Investigating the processes of canned food sterilization in a
"Hydron" sterilizer with continuous action. Trudy MNIIZP 33:27-41
163. (MIRA 18:1)

MORDKOVICH, M.S.; SIROTA, M.A.; BOBRAKOV, B.P.; ZASLAVSKIY, A.S.

Sterilization of canned food in a continuous hydrostatic sterilizer.
Kons. i ov. prom. 16 no.9:13-19 S '61. (MIRA 14:8)

1. Moldavskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.
(Canning industry--Equipment and supplies)
(Food, Canned--Sterilization)

SIROTA, M.B.

Fireless locomotives for shunting on railroad tracks between the chemical sections of by-product chemical plants. Koks i khim. no.9:51-52 '60.
(MIRA 13:9)

1. Giprokoksi.

(Coke industry--Equipment and supplies)
(Loading and unloading)

MAKAR'YEV, P.N.; SIROTA, M.M.; VERESOV, V.Ya., inzh., nauchnyy red.;
ROTEMBERG, A.S., red.izd-va; ROZOV, L.K., tekhn.red.

[What's new in the mechanization of construction] Novoe v mekhanizatsii stroitel'stva. Leningrad, Gos.izd-vo lit-ry po stroit.,
arkhit. i stroit.materialam, 1959. 62 p. (MIRA 13:6)
(Building machinery)

BASHKIROV, L.A. [Bashkirau, L.A.]; PAIKIN, A.P.; SIROTA, M.M. [Sirata, M.M.]

Magnesium-nickel-zinc ferrites and some of their properties. Vestsi
AN BSSR. Ser.fiz.-tekhn. no.2;101-112 '60. (MIRA 13:10)
(Ferrates)

SIROTA, M.M., ordinator.

Comparative evaluation of the psychoprophylactic analgesic method
in labor and verbal suggestion. Akush. i gin. 32 no.1:74-75 Ja-F
'56 (MLRA 9:6)

1. Iz 2-go rodil'nogo doma Tashkenta (glavnnyy vrach N.K. Gafurbayeva,
nauchnyy rukovoditel'--zasluzhennyy deyatel' nauki prof. A.A. Koran)
(LABOR
painless, psychoprophylactic method & verbal suggestion,
comparison)

SIROTA, M.N.

Treatment of adhesive otitis with lidase. Zhur. ush., nos.
i gorl. bol. 23 no.4:51-54 Jl-Ag'63. (MIRA 16:10)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - zasluzhennyj
deyatel' nauki prof. L.A. Zaritakiy) Odesskogo meditsinskogo
instituta imeni N.I. Pirogova i otdeleniya bolezney ukha, gorla
i nosa Odesskoy oblastnoy klinicheskoy bol'nisty (glavnyy vrach
K.S.Ternovoy).

(EAR—DISEASES) (HYALURONIDASES)

SIROTA, M.N.

Treatment of adhesive otitis with lidase. Zhur. ush., nos.
i gorl. bol. 23 no.4:51-54 Jl-Ag'63. (MIRA 16:10)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - zasluzhennyj
deyatel' nauki prof. L.A. Zaritskiy) Odesskogo meditsinskogo
instituta imeni N.I. Pirogova i otdeleniya bolezney ukha, gorla
i nosa Odesskoy oblastnoy klinicheskoy bol'nisty (glavnyy vrach
K.S.Ternovoy).

(EAR—DISEASES) (HYALURONIDASES)

SIROTA, N. G.

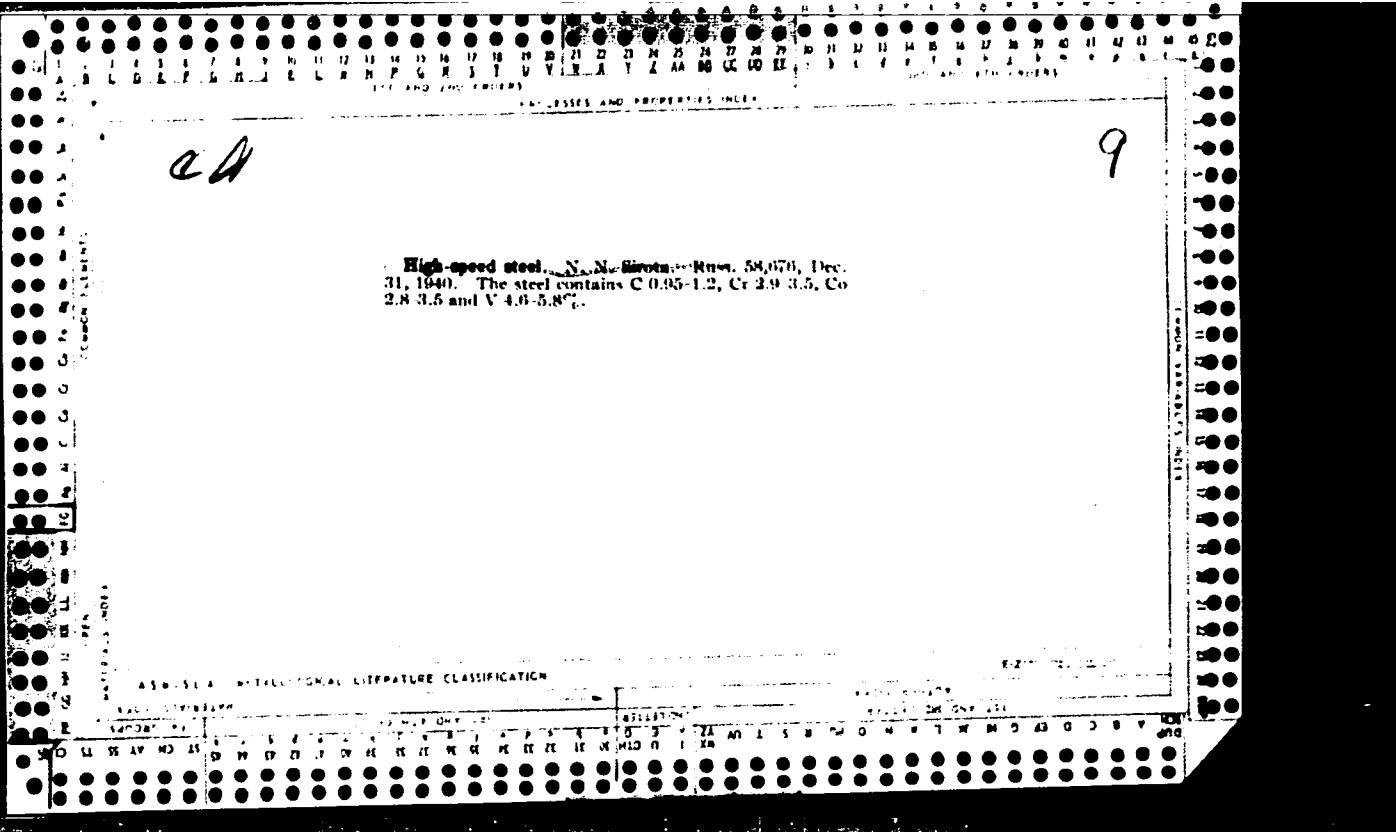
36844. Kharakteristika usloviy lecheniya unipolyarnootritsatel'noy ionizatsiyey,
poluchayemoy po metodu professora Chernyavskogo. Trudy Uzbek. gos. nauch.-issled.
in-ta kurortologii i fizioterapii im Semashko, sb. 11, 1949, s. 62-66

SO: Letopis' Zhurnal'ynkh Statey, Vol. 50, Moskva, 1949

SIROTA, N.G.

36880. V~~z~~liyankiye unipolyarno-otritstel'noy ionizatsii na arterial'noye davleniye bol'nykh giper-tonicheskoy bolesn'yu v usloviyakh ambulatorogo lecheniya. Trudy Uzbek. gos. nauch.-issled. in-ta kurorgologii i fizioterapii im. Semashko, sb.11, 1949, c. 146-52

SO: Letopis' Zhurnal ~~■~~ Mykh Statey, Vol. 50, Moskva, 1949



W. W. H.

Analytical expressions of kinetic curves of phase transformations accounting for the dimensionality of growth of transformation products and the magnitude of theothermal model. N. N. Sirota (Compt. rend. Acad. Sci. U.R.S.S., 1942, 38, 175-179).—From Tammann's concept of a phase transformation as a process of creation of centres of new phases and the growth of these, kinetic expressions for phase transformations are deduced on the assumption that the transformations are isothermal and that the vol. of the mother phase remains const. Influence of the dimensionality of the growth of the centres of the transformation products and of the size of the three-dimensional nuclei is taken into account. For a small linear velocity of growth of the new phase (I) and a large velocity of the formation of centres, the magnitude of the three-dimensional nuclei must be considered. If the linear growth ceases the kinetics are similar to those of a first-order change. Except for the case of (I), the velocity coeff. is \propto the power of the time to the dimensionality of the growth. Variation of the probability of formation of two- and three-dimensional nuclei causes the exponent of the time to vary. The theory is briefly applied to a transformation of over-cooled austenite. J. O'M-B.

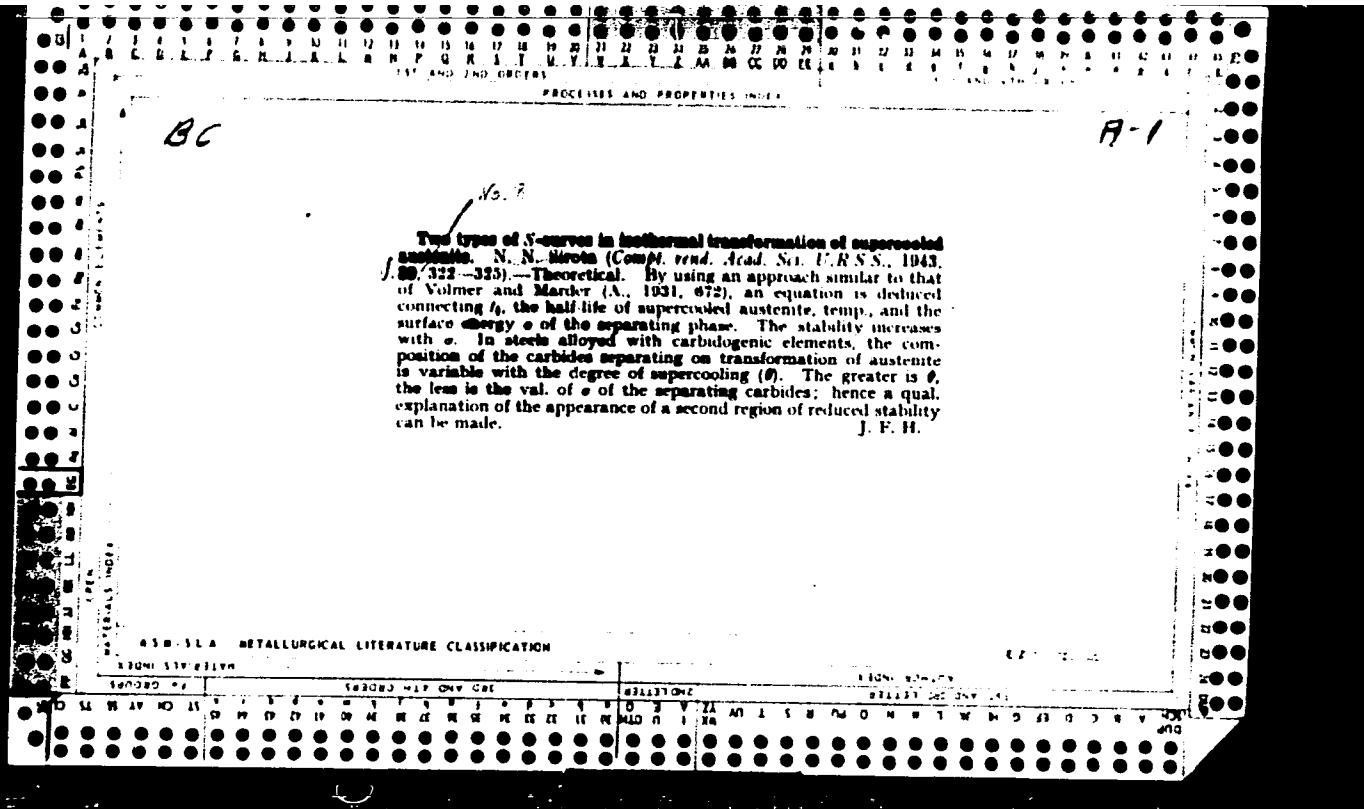
Effect of transformation temperature of supercooled austenite on composition of separated carbides. N. Sirota. *Compt. rend. acad. sci. U. R. S. S.* 39 [111-11] (1943).—A theoretical discussion is given of the exptl. finding that the compn. of carbides ptg. during the thermal transformation of supercooled austenite (in alloy steel) is lower in the alloying elements and approaches that of pure cementite as the transformation temp. is decreased and consequently as the degree of dispersion of the particles increases. James W. Povnder

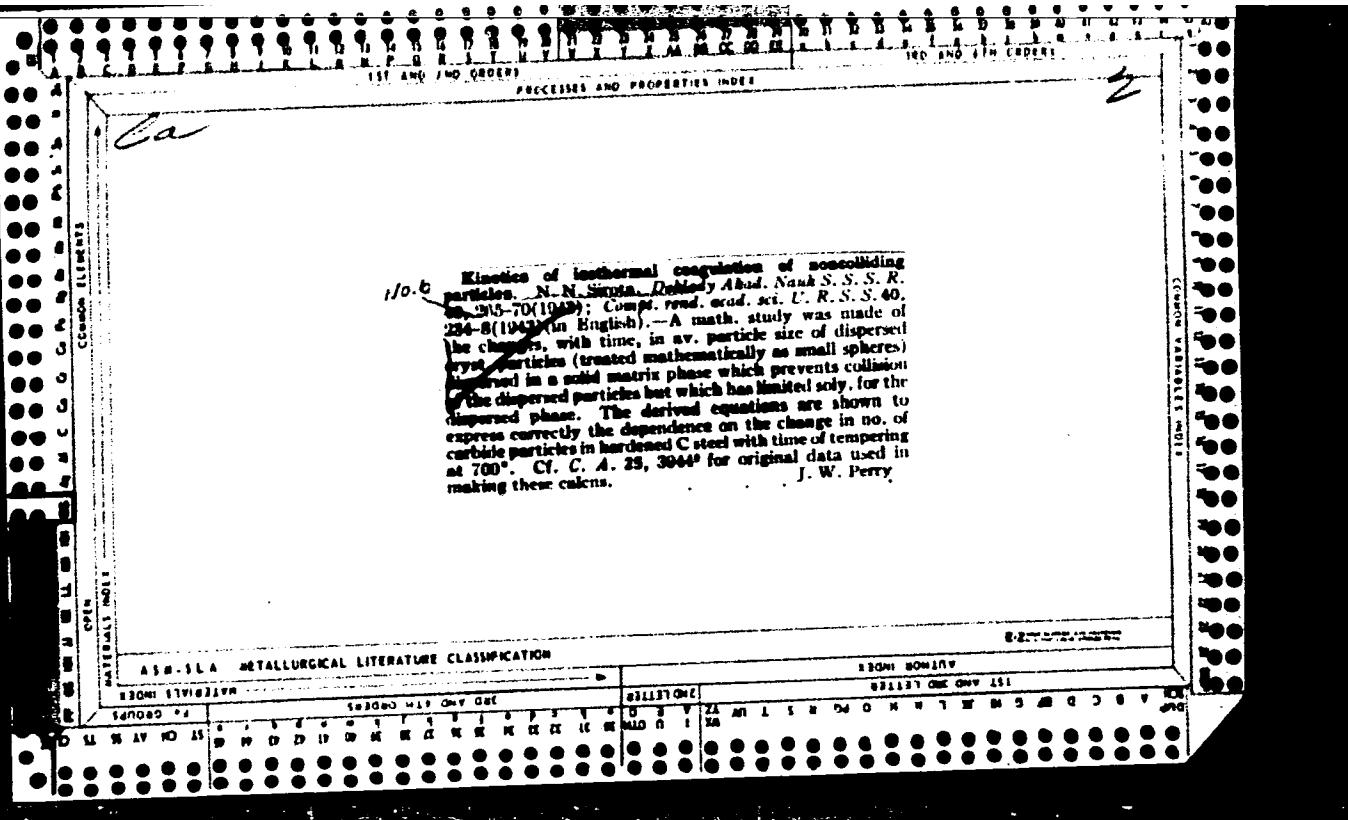
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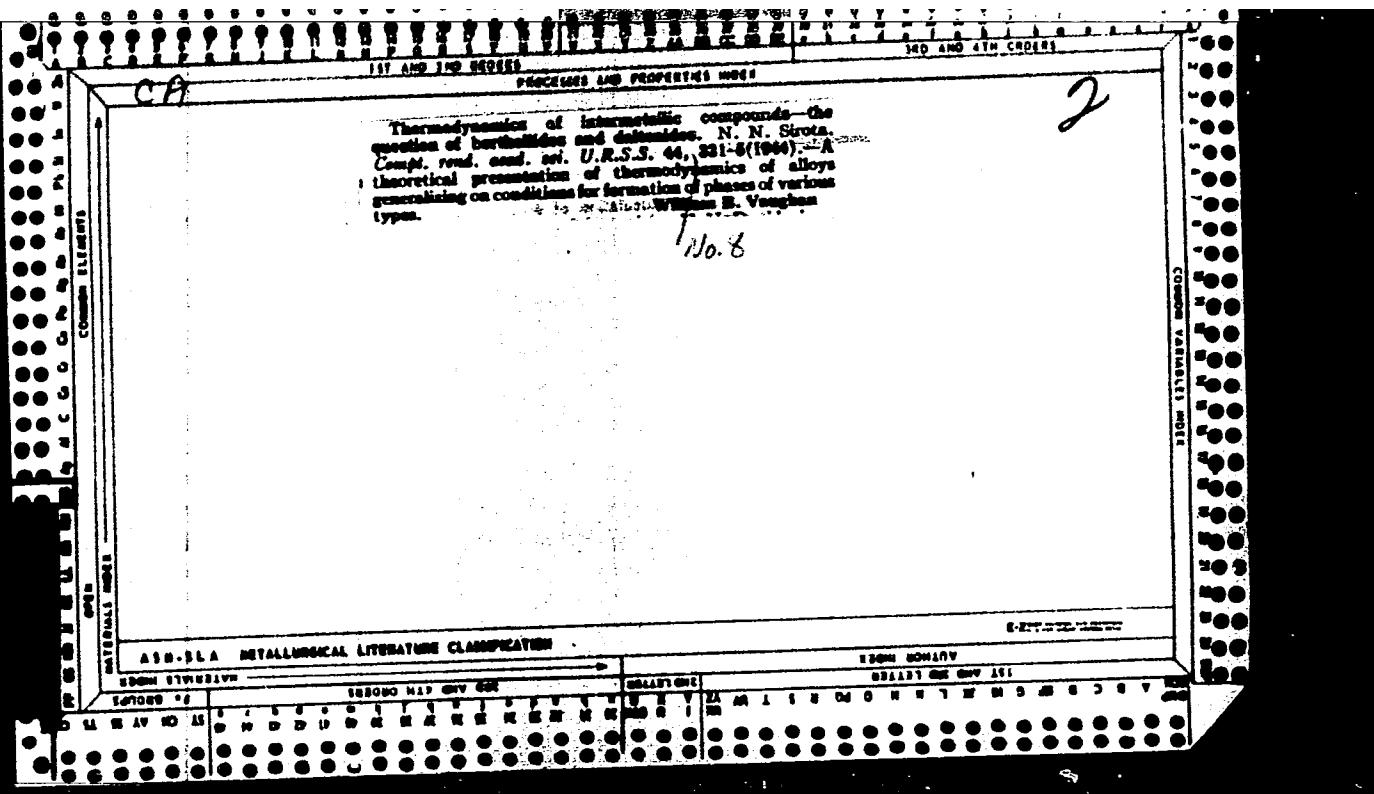
CH

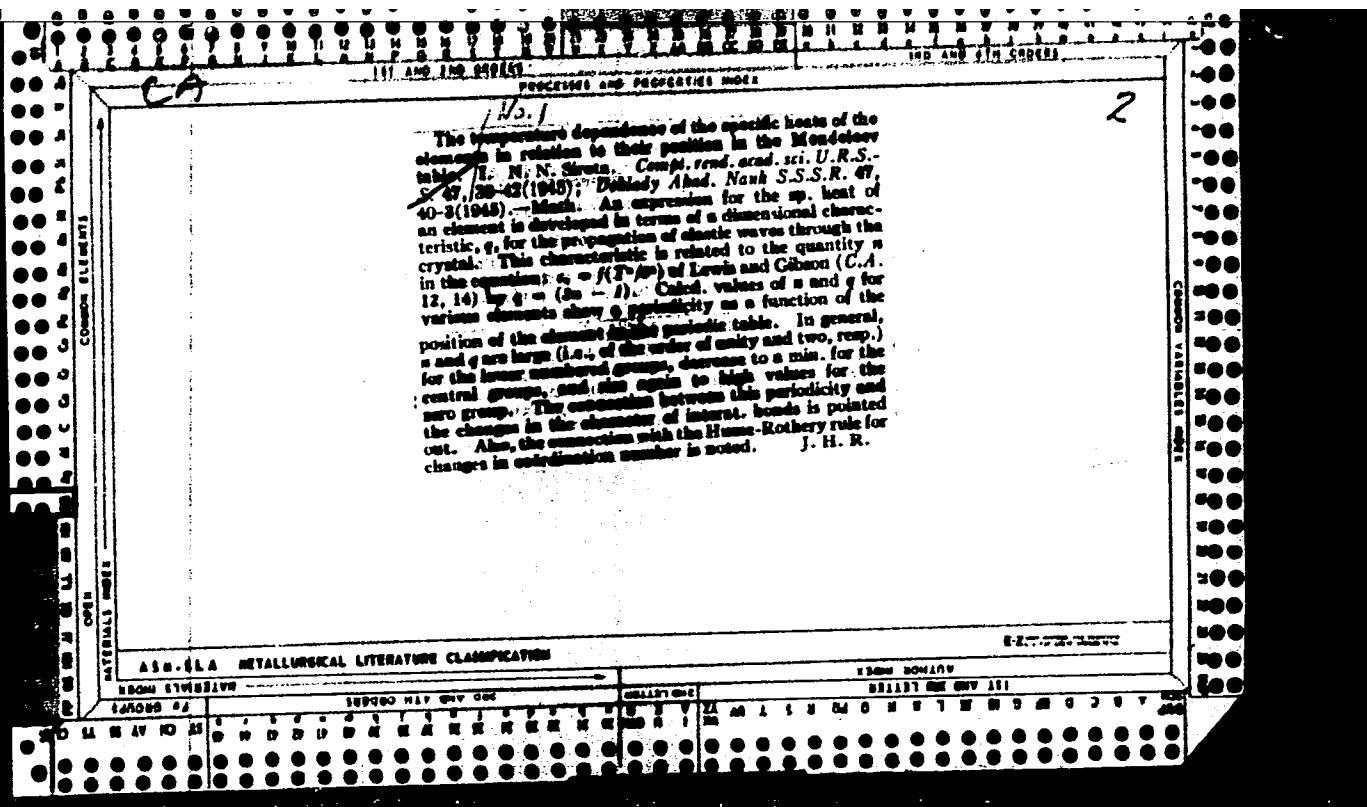
APPENDIX - SURGICAL LITERATURE CLASSIFICATION

6 134- 224428
1942 080 200 132









CA

2

Intermediate metastable states in solid-state phase changes and in diffusion processes. M. N. Weiss (Anal. Chem. U.S.S.R., 1957, No. 1, p. 12). Theoretical equations are developed for the possibility of formation of 2- and 3-dimensional nuclei of stable and metastable phases in the continuous change, of supersaturated 1- and 2-component systems. The min. time of nucleus formation is at about 0.5 of the crit. temp. for equal transformation. However, which may play a dominant role, are not considered. The possibility of metastable phases between the temp. range over which diffusion can occur at a high rate. The recovery phenomena in age hardening is the result of the loss of a metastable phase more rapidly than the formation of another phase.

A. C. Gay

CH

Velocity of formation of nuclei of the excess phase in supercooled univariant solid solutions. N. N. Gavrilov (Acad. Sci. U.S.S.R., Moscow). Doklady Akad. Nauk S.S.R. 59, 849-52 (1948); cf. C.A. 43, 6365. — A theoretical equation was derived for the velocity of formation of 1-, 2- and 3-dimensional nuclei of a second phase. The principal new problem was the interaction of excess, leading to the new phase and the Gibbs distribution law was used here. The entropy of mixing was taken, by the equation $S = k \ln W$. Comm. formulas always lead to a slowing down of the phase transformation. If the new phase has a smaller vol. than the old one, the reaction may be aided.

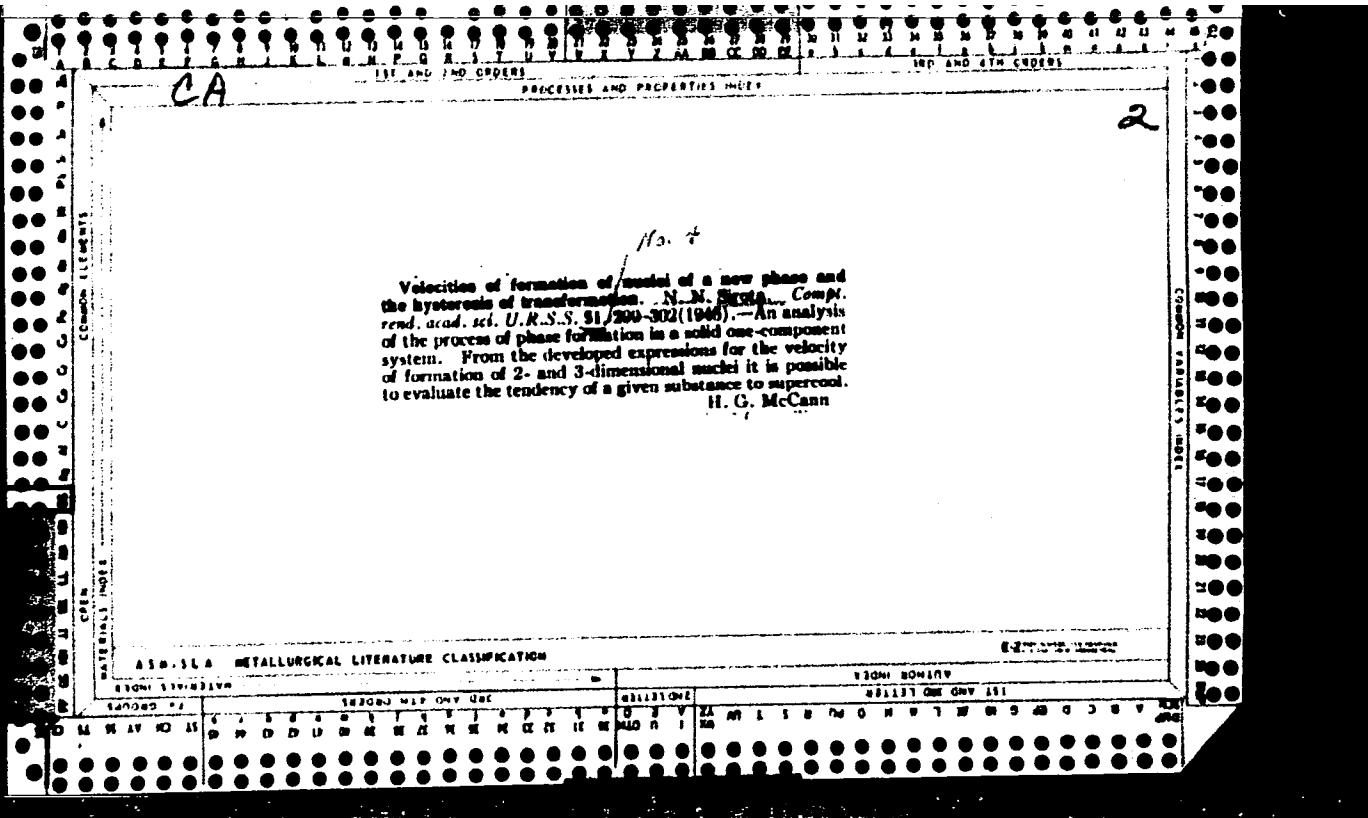
A. G. Gay

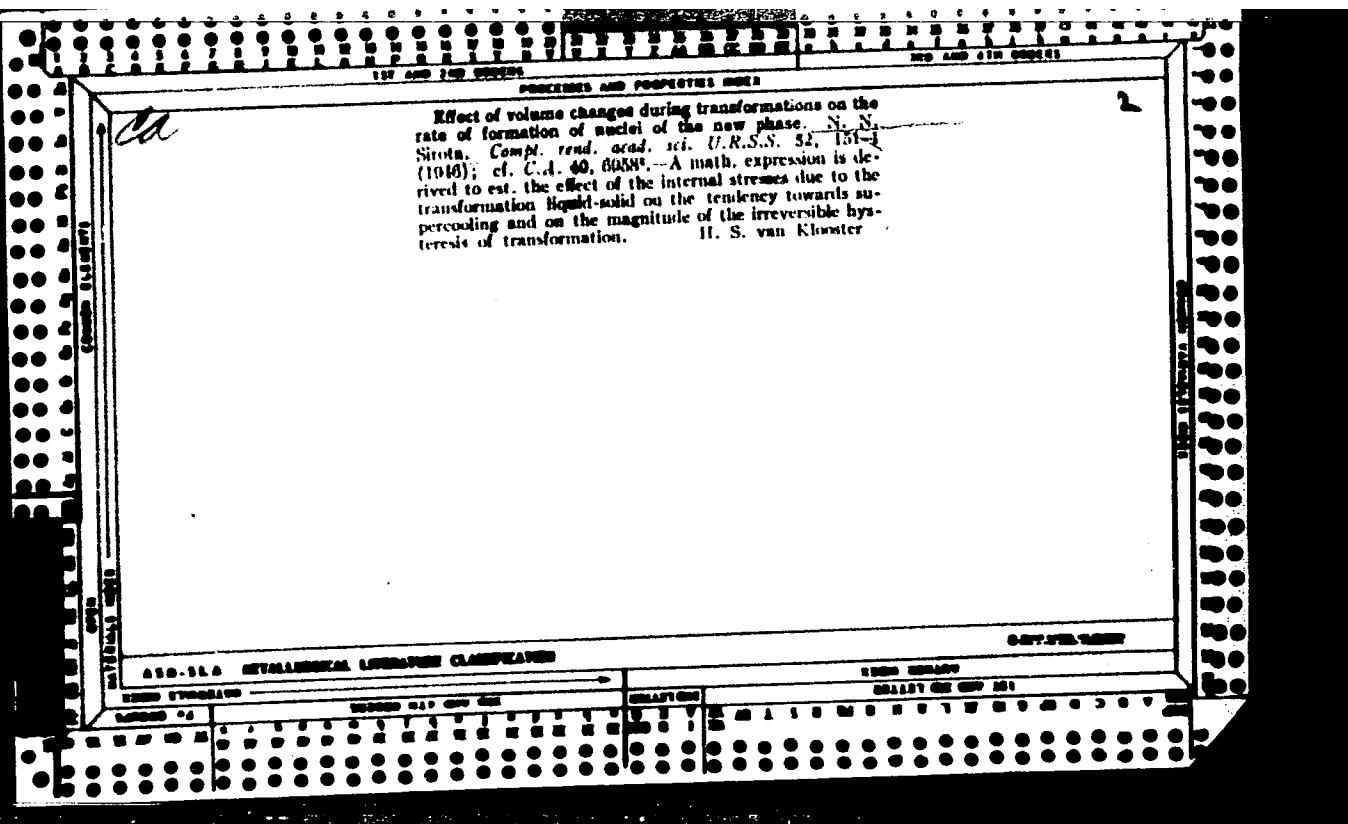
The influence of silicon, manganese, and other elements on the fluidity of blast-furnace ferrochrome. N. N. Kurnakov, N. N. Sirota, and M. Ya. Tronova. *Compt. rend. Acad. sci. U.R.S.S.*, 51, 221 (1940). - It was desired to determine the composition of blast-furnace ferrochrome having optimum fluidity. To measure the fluidity, 80 g. samples were fused in clay crucibles in a high-frequency electric furnace and cast at 1600° on to a surface inclined at an angle of 1°. The length of the casting was measured to give the relative fluidity. The addition of Si gave max. fluidity at 11.82% Si. This alloy had a eutectic structure. With Mn, the blast-furnace ferrochrome fluidity passes through a max. at 8% Mn. Higher Cr content gives lower fluidity. Increase in percentage of P increases the fluidity. A. S. Eastman

A. S. Faistman

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550820016-3"





SIROTA, N. N.

PA 58T77

USER/Metals

Iron - Polymorphism
Iron Alloys

May 1947

"Hypothesis on the Classification of Influences of Some Elements on the Polymorphism of Iron," N. N. Sirota, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVI, No 6

Deals with connection which exists between chemical properties of an alloy element, in particular its reaction with iron; and influence of element on expansion of the Y area in its binary system with iron. Submitted by Academician I. I. Chernyayev, 12 Nov 1946.

58T77

26

Causes of the Formation of Metastable States During
Crystallization. (In Russian.) N. N. Sirota. *Zhurnal
Technicheskoi Fiziki* (Journal of Technical Physics),
v. 18, Sept. 1948, p. 1136-1148.

Theoretically investigates the above. Existence of
metastable states during transition from the gas

SIROTA, N.N.

Sirota, N.N. "Tempering chrome steel," report (Mosk. in-t stale im. Stalina)
26, 1948, p. 43-57

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 14 1949

SIROTA, N. N.

"The Influence of Foreign Substances on the Processes of Recrystallization and on
the Formation of Metastable Conditions: The Classification of Modifiers,"
Dok. AN 49, No. 3, 1948.

2
1

On the Molecular Structure of Solid Solutions and Liquid Phases. N. N. Slezda (*Izdat. Akad. Nauk S.S.R.*, 1944, 50, (5), 933-935).—[In Russian]. At given parameters (temp., &c.) the equilibrium state of any soln. or liquid of a given compn. corresponds to the min. of the thermodynamic potential and, for a given min. of the thermodynamic potential, to the max. value of entropy. For stable equilibrium states an increase in the entropy S is always accompanied by a decrease in the energy of interatomic forces E , and hence a change in E or S can be expressed in terms of a change in the thermodynamic probability of the state. Since E has a max. at abs. zero (E_0) and β at an infinitely high temp. (N_m).

$S \sim \frac{N_m}{E_0} V(E_0^2 - E^2)$, approx. It follows from $dE/dV \sim T$ and

$E \sim E_0 \tau$ that the order factor $\sigma = \frac{E_0}{\sqrt{(E_0^2 + T^2 N_m^2)}}$. If $E_{AA} >$

denotes the energy of interaction between atoms of the same element and E_{AB} between different elements, then when $E_{AA} > E_{BB}$ and $v = \frac{E_{AA} + E_{BB}}{2} - E_{AB} < 0$, the min. of internal energy (or max. energy of atomic interaction) corresponds to an arrangement AA and BB . Conversely when $E_{AB} > E_{AA}$ and $v < 0$, the min. of internal energy corresponds to an arrangement AB ($A_m B_n$). Therefore, at temp. above critical ($T > T_c$), in the first case to $v > 0$ corresponds micro-heterogeneity of the AA type, and in the second case, at $v < 0$, micro-heterogeneity of the AB ($A_m B_n$) type, which demonstrates the presence of micro-heterogeneity in the molecular structure of solid soln. and liq. phas. —A. G.

1952

SIROTA, N. N.

Contribution to the theory of polymorphism. N. N.
Sirota. *Doklady Akad. Nauk S.S.R.* 59, 1123-0
(1948). —Polymorphism is possible only in cases where transition from one modification into another is accompanied by a change of the functional dependence of heat capacity on the temp.; this change will mostly be due to a change of the anisotropy of the interat. force field, and, correspondingly, of the dimensionality of propagation of elastic waves in the lattice. The lower the dimensionality, and the higher the anisotropy, the greater will be the rate of change of free energy with the temp., at equal values of the Debye characteristic temp. θ . The effect of a change of θ on the free energy-temp. curves is greater the lower the anisotropy. From this point of view, transition from a low-temp. form of higher anisotropy to a high-temp. form of lower anisotropy and lower θ is possible; the low-temp. modification has a higher lattice energy, but the temp. change of its free energy is steeper. Stability of the more highly anisotropic form as the higher-temp. modification is possible only if it has the higher θ . Comparison of the exptl. curves of the heat capacity C_v of white and gray Sn and of orthorhombic and monoclinic S, as a function of the temp. T/r (r = temp. at which one half of the degrees of freedom are excited), and of the theoretical $C_v(T/r)$ curves for one-, two- and three-dimensional models of the solid body, may be taken to demonstrate that the transitions of Sn and of S actually correspond to changes of dimensionality. N. Thon

SIROTA, N. N.

PA47T100

USER/Physics
Recrystallization
Hysteresis

"Unavoidable Hysteresis of Transformation during Re-crystallization," N. N. Sirota, 4 pp

"Dok Akad Nauk SSSR, Nova Ser." Vol LIX, No 7

Every process of recrystallisation necessarily accompanied by the phenomenon of hysteresis, i.e., over-heating or overcooling. Cause of hysteresis lies in the very mechanism of phase transformation, taking place by the formation of nuclei, which demands some supersaturation. Examined two direct causes of hysteresis. Presents formula for the magnitude of hys-

teresis (Contd) 1 Mar 1948

teresis and discusses the phenomenon in detail.

Submitted by Academician G. G. Ursarov, 9 Jan 1948.

47T100

C. A.

Polymporphic transformation of iron in binary systems
(theory of polymorphism). N. N. Saha. *J. Mat. Sci.*,
1964, Akademie Verl., Berlin (W.G.D.), New York, 1964.
N.Y.U.S.A.R. 10, Iss. 01(1964). The best means available at the present for explaining the effect of pressure, compn., etc., on Fe polymorphism is thermodynamic analysis based on exptl. data. This approach is used to study the effect of compn. on Fe polymorphism. Such an analysis shows that elements that dissolve in Fe with evolution of heat, e.g., Be, Al, Si, Ti, V, Mo, and W, contract the field of the γ phase and may even eliminate it; these elements increase the thermal effect of $\alpha \rightarrow \gamma$ transformation. Elements that dissolve in Fe with heat absorption, e.g., Ni, Mn, Pt, Pd, Cu, and Au, expand the field of the γ phase. Such elements decrease the thermal effect of $\alpha \rightarrow \gamma$ transformation. The elements that contract the γ field reduce the entropy, reduce the slope of free-energy curves, and increase the radius of curvature of the free-energy curves in the temp. function. Those elements that expand the γ field have the opposite effect. M. Hirsch

PA 29/49T1

SIROTA, N. N.

USSR/Chemistry - Systems
Chemistry - Iron, System: Cementite

Feb 49

"Reasons for the Existence of the Metastable Iron-Cementite System," N. N. Sirota, 4 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 5

Shows that speed of origin of dimeric nuclei and consequently, linear speed of increase of cementite nuclei, is considerably larger than speed of origin of graphite dimeric nuclei. States that this explains the reason for existence of the metastable system, iron-cementite, iron-graphite. Submitted by Acad G. G. Urazov, 23 Nov 48.

29/49T1

SIROTA, N. N.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 336 - I

BOOK

Author: SIROTA, N. N.

Full Title: TWO TYPES OF "S" CURVES OF STABILITY OF OVERCOOLED PHASE
Transliterated Title: O dvukh tipakh S-obraznykh krivykh ustoychivosti
pereokhlazhdennoy fazы

Publishing Data

Originating Agency: All-Union Scientific Engineering and Technical
Society of Machine Builders. Urals Branch

Publishing House: State Scientific and Technical Publishing House of
Machine Building Literature ("Mashgiz")

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Text Data

This is an article from the book: VSESOYUZNOYE NAUCHNOYE INZHENERNO-
TEKHNICHESKOYE OBSHCHESTVO MASHINOSTROITELEY. URAL'SKOYE OTDELENIYE,
THERMAL TREATMENT OF METALS - Symposium of Conference (Termicheskaya
obrabotka metallov, materialy konferentsii), (p. 16-29), see AID 223-II

Coverage: Complicated types of stability curves of an overcooled phase
with many maximums of stability are found in the experimental
study of the isothermal transformation of overcooled austenite.
The microcinematographic study of crystallization in the tri-
laurins, conducted by S. B. Ravich, G. G. Tsurin,

1/2

Doc Physicomath Sci

SIROTA, N. N.

Dissertation: "Thermodynamics and Kinetics of the Phase Transitions in Binary Systems."
7/6/50

Moscow Order of Lenin State U imeni

M. V. Lomonosov

SO Vecheryaya Moskva
Sum 71